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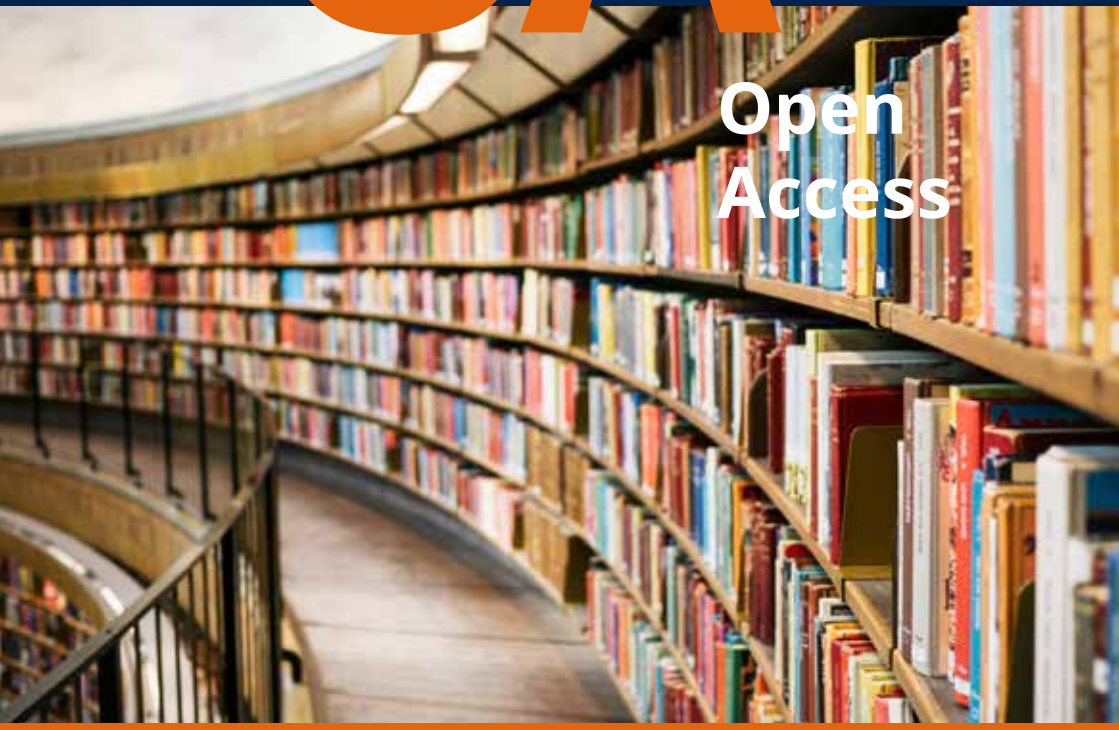
Why OA



Open Access

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Introduction

Open access (OA) promotes the fair and ethical sharing of scientific knowledge as a global public resource, in accordance with the **UNESCO Recommendation on Open Science (2021)**.[1] It is intended to make research outputs freely accessible and openly licensed for responsible reuse, recognizing that openness operates within clear ethical, legal and social boundaries. They include those associated with respect for human rights and privacy, intellectual property, Indigenous and local knowledge, security, and bioethical considerations. Consequently, OA promotes transparency, inclusiveness and trust in science, ensuring that knowledge is created and shared for the benefit of all, and that it is guided by ethical principles and the values of cooperation and equity affirmed in the United Nations Pact for the Future and the Global Digital Compact.

Traditionally, research outputs are published as articles behind a paywall and under restrictive copyright, creating financial and legal barriers. In this model, access to these publications results in significant costs for universities, research institutions, library consortia and funding agencies, which must subscribe to provide their academic communities with access. Alternatively, individuals may need to purchase single articles or journals at their own expense, particularly when subscription contracts are not in place.

In addition, when an article is published under restricted copyright, the author transfers most of his or her rights to the publisher. While the author usually retains moral rights, the publisher often controls the reproduction, distribution and commercialization of the article.

OA has changed the academic publishing landscape by promoting two fundamental changes:

Research outputs, such as academic articles and research data, are **free of charge** and carry an **open licence**.[2]

1 UNESCO (2021). Recommendation on Open Science. unesdoc.unesco.org/ark:/48223/pf0000379949. For practical information on the Recommendation, see the UNESCO Open Science Toolkit, available at unesdoc.unesco.org/ark:/48223/pf0000387983

2 Open license refers to a license that respects the intellectual property rights of the copyright owner and provides permissions granting the public the rights to access, re-use, re-purpose, adapt and redistribute educational materials. (2019 UNESCO Recommendation on OER, I.2)

Open scientific knowledge is that which is "available in the public domain or under copyright and licensed under an open license that allows access, re-use, repurpose, adaptation and distribution under specific conditions, provided to all actors immediately or as quickly as possible ... and **free of charge**".

OA enables knowledge to be accessed and shared more equitably — even in different languages — supporting global participation in knowledge production. It encourages critical reflection on how, when and why to share research outputs such as research data. It also helps to expand the research community to actors who traditionally do not have easy access to research, such as teachers, youth, policymakers and civil society. OA fosters collaboration, builds trust, and leads to more diverse and reproducible research.

For more information please contact: diamond.oa@unesco.org

The role of UNESCO Chairs and University Twinning and Networking Programme (UNITWIN) Networks

This guide supports UNESCO Chairs and UNITWIN Networks in aligning their activities with the criteria and expectations outlined in their respective agreements, including commitments to promote open access.[3] It also encourages the wider adoption of open access across the Programme, and as part of UNESCO's wider mission.[4]

UNESCO Chairs and UNITWIN Networks can actively promote OA through research, training, regional and international collaboration, and policy advocacy, as well as by supporting regional publishing and community-oriented platforms. The engagement of members of the UNITWIN/UNESCO Chairs Programme raises global awareness and reinforces the credibility of OA worldwide.

3 Article 11: "The Host Institution shall strongly encourage research produced and published by the Chair to be made available as Open Access in line with the UNESCO Recommendation on Open Science, and educational materials as Open Educational Resources in line with the 2019 UNESCO Recommendation on Open Educational Resources (OER)."

4 Though it is not the focus of this document, it is important to note that UNESCO adopted its institutional OA policy in 2013. See Open Access Policy concerning UNESCO Publications unesdoc.unesco.org/ark:/48223/pf0000220872.locale=en

There are many models for OA.[5] This document focuses on Diamond Open Access, supported by UNESCO, in line with the Recommendation on Open Science (2021).[6] The table below provides a general overview of models for OA publishing.[7]

Model	Article version available as OA	Cost to make version OAd	Fee to access VoR	Academic funding diverted to profit margins
Diamond	Version of record (VoR)[8]	No	No	No
Gold	Version of record	Yes	No	Very high
Hybrid[9]	Version of record	Yes	No (if fee was paid to make it open)	Very high
Bronze[10]	Version of record (selected articles)	No ("free to read" but does not carry an open licence)	No (selected articles)	Very high
Green	Author accepted manuscript (AAM)[11]	No (after an embargo period; there is sometimes a fee for zero embargo)	Yes	Very high (for VoR)

5 For more information and details on trends, see Open Science Outlook 1: Status and Trends around the World, unesdoc.unesco.org/ark:/48223/pf0000387324

6 For more information on Diamond Open Access at UNESCO, see www.unesco.org/en/diamond-open-access

7 For a more extensive glossary and discussion, see Galvanising the Open Access Community: A Study on the Impact of Plan S. doi.org/10.5281/zenodo.13738479

8 The version of record (VoR), is the final published version of the publication, or the formatted publisher's version. The VoR is essentially the same as the author accepted manuscript (AAM), but it is the final, canonical version for citation purposes.

9 In the hybrid model, journals publish a mix of both closed (subscription only) and open content. Individual articles can be made OA through payment.

10 In the bronze model, the publisher chooses to make certain articles and content freely available, sometimes for a specific period. For example, during the coronavirus disease (COVID-19) pandemic, some paywalls were removed for articles related to COVID-19 research.

11 The author accepted manuscript (AAM) is the version of the research publication that has received final acceptance from a publisher and has undergone peer review.

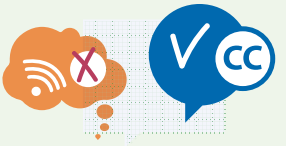
Common concerns

In the following section we address some common concerns that academics may have about opening up their work and highlight good reasons for going open.

I want to make sure that my work is used properly and cited

Individuals can misuse, plagiarize or fail to attribute resources, including resources made available on the Internet. It does not matter if the resource carries an open licence or is copyright restricted. Some characteristics of OA can help limit these issues.

Open repositories provide clear attribution information that people can understand and that is also machine-readable. For example, if you publish your data or article in an open repository or journal, it will receive licence information, authorship data and, usually, a unique identifier. This makes it easy for anyone to reference your work correctly and attracts more diverse readers and citations.[12] Moreover, these descriptive data (or metadata) can also be picked up automatically by search engines and content aggregators, increasing the outreach of your work. Open licences clearly communicate what rights and restrictions (such as limits on commercial use) you wish to place on your work.



I want to keep some control over my research

Openly sharing knowledge and working in cooperation are key principles for researchers and scientists. Still, we might be wary of when to share our work or worry about what others might do with the outputs of our research. You might be afraid that openly publishing your data or research will allow anyone to do anything they wish with your work. That is not the case: OA enables you to retain more rights over your work. It is worth noting that in closed publication models, you lose most control of your work since you are usually required to transfer full copyright or grant exclusive economic rights to the publisher.

Open licences such as Creative Commons work within the copyright laws of your country and are internationally enforceable. This means that you are not giving up all of your rights. You define clear criteria of what can and cannot be done with your work through open licences and communicate your wishes clearly. It is important to recognize that there might be situations where sharing your work is not possible or desirable. In other cases, you might be obliged to do so, such as when your research is financed or supported by an agency that requires OA.

12 Huang, C.K., Neylon, C., Montgomery, L., et al. Open Access Research Outputs Receive More Diverse Citations. Scientometrics. 129, 825–845 (2024). doi.org/10.1007/s11192-023-04894-0

In any case, open licences can help you establish the limitations that you might wish to impose. With open licences, you make it easier for others to cite, use and reuse your work, leading to more recognition for you and your institution.

I do not want to do extra work to open my research

Openly sharing your data and articles might feel like an excessive burden. In reality, publishing research, such as articles or data, in OA mode does not mean more work for researchers. It fundamentally follows the same workflow.

Science is usually a collaborative effort, sometimes across large groups of people in many locations. Using online tools to support collaborative data collection and analysis and to write articles is commonplace. If you plan using the appropriate tools and guidelines, you will find that open sharing will require only a few changes to your workflow. For example, structuring your data around findability, accessibility, interoperability and reuse (FAIR)[13] and collective benefit, authority to control, responsibility and ethics (CARE)[14] principles can help you work more effectively and efficiently within your research team. Finally, adding an open licence to your resources is very simple. Openness not only helps you share your work, giving you more visibility, but also helps connect your work to other publications and data sets, for example, benefiting the larger scientific community.[15]

I want my research to be seen as high quality

Concerns about the quality of Open Access publications are primarily linked to the proliferation of predatory journals,[16] which exploit pay-to-publish models for economic gain without applying appropriate quality assurance or peer review standards. When practised ethically, OA methodology enhances visibility, fosters transparency and strengthens trust in science. Quality OA works are published and/or curated by trustworthy sources such as research and academic institutions and societies, reputable journals, researchers and research groups.

13 www.go-fair.org/fair-principles

14 www.gida-global.org/care

15 For a list of tools, guidelines and ideas, see www.ouvrirlascience.fr/open-science-research-data

16 To avoid predatory journals, you can follow guidelines such as thinkchecksubmit.org for journals, and thinkcheckattend.org for conferences. To find out more about this subject, see the UNESCO Open Science Toolkit, at www.unesco.org/en/open-science/toolkit .

Whether open or closed, free or paid, you must always assess the quality of content you find online. You can easily find numerous reputable and high-quality OA journals[17] and repositories[18] worldwide. OA promotes quality through more outreach, open discussion and feedback; it also enhances trust in research by promoting the verification and validation of research by other scientists and the wider community.

I am concerned that my research outputs will be used to train artificial intelligence (AI) models

Many academics and teachers are cautious of having their work used as training materials for large language models (LLMs), particularly those created and maintained by "big tech" corporations. Currently, most large language model developers do not make a distinction between copyright-restricted (closed) and open content when training their models; they consider training LLMs on any “legally accessed” content to be fair use. Large language models are being built using all available content on the Internet without distinction. In some cases, publishers are striking commercial deals to allow the mining of published content[19] without consent from authors. At present, using an open licence does not affect whether your content will be used to train AI.

Making your content open can actually help promote more ethical LLMs. Since openly licensed content carries clear licensing terms, open licences can make it easier for developers of ethically developed LLMs to correctly cite your content and respect your rights. This is a rapidly evolving ecosystem: emerging standards can allow you to inform LLM crawlers that you do not want your open content to be used to train large language models.[20]

I already share my work on social networks

Many academics share their work in informal repositories such as ResearchGate and Academia.edu, or on social networks such as LinkedIn. These are proprietary platforms that provide no guarantee of future service and might change their terms of use at any moment. They can help you connect with other researchers and make your work “available”, but they are not open repositories that guarantee preservation, barrier-free access or clear information on licensing and attribution.

17 You can start your search at doaj.org or www.redalyc.org

18 See opendoar.ac.uk

19 www.nature.com/articles/d41586-024-04018-5

20 See rslstandard.org and github.com/creativecommons/cc-signals

There is an important distinction to be made between accessible[21] or "freely available" and open resources. Freely available resources are fully copyrighted and simply available online for you to browse, view, read or use (as with most things on the Internet). As a rule, any resource that is available but does not carry an open licence or is not in the public domain is copyright-restricted. OA resources are different. They both are free of charge and carry an open licence that offers many more permissions and freedoms. These may include the right to use, reuse and repurpose. You should always try to use an appropriate outlet for your research. This could be your institutional repository or an open repository, which allows your research outputs to have clear descriptive information and an open licence.

I need an institutional policy to promote OA

It is important for you to check who holds the rights to your research outputs. In some countries and institutions, the researcher holds the rights to their work. This gives you more freedom to make decisions as to how your research will be shared. In other countries and institutions, the employer holds these rights.[22] OA mandates are prevalent in many parts of the world and are increasingly being revised and expanded.[23] Your institution, funders or the law may mandate how and when your research must be shared.

Policies and strategies help to create and sustain a culture of openness. Having an open policy and strategy can provide incentives and support for academics and scientists in their OA journey, and it can help to create a culture of openness. If there are no clear mandates or guidelines on OA at your organization, it is worth starting a discussion to get your peers thinking about establishing an OA policy or strategy.[24] You will probably find like-minded peers and colleagues who are interested in advancing an open strategy.

21 Also called "free" resources, which is not accurate. Many things we consider free are commercially supported by advertising, personal data processing and sale, and other mechanisms for remuneration.

22 Copyright law, moral rights, and institutional and organizational regulations differ substantially from one country to another.

23 roarmap.eprints.org

24 www.unesco.org/en/articles/policy-guidelines-development-and-promotion-open-access

Get involved

To begin, explore **UNESCO's OA**[25] initiatives and publications.

Consult the UNESCO Open Science Toolkit,[26] which includes practical resources for academia and publishing. Here you will find checklists for publishers and universities to implement OA in accordance with the UNESCO Recommendation on Open Science (2021).

You can also join UNESCO open science working groups[27] in order to contribute to and learn from the global discussions held on key open science topics.

If you are a researcher, you can search through the Directory of Open Access Journals (DOAJ)[28] to find reputable outlets for your research work.

UNESCO recently published Advancing Equity and Inclusion in Scholarly Communication: *Findings from the Consultation on a Global Diamond Open Access Framework*.[29] The report notes that achieving truly inclusive OA requires coordinated global action to support community-led and non-commercial publishing models. It stresses that Diamond OA plays a vital role in ensuring equity, linguistic diversity and sustainability in scholarly communication. These principles reinforce the overarching mission to promote universal access to information and knowledge.

Finally, make your scientific work available through the Diamond OA framework and make knowledge a digital public good that is accessible to everyone!

25 www.unesco.org/en/open-access

26 www.unesco.org/en/open-science/toolkit

27 https://www.unesco.org/en/open-science/implementation?hub=686#open-science-working-groups

28 doaj.org

29 https://unesdoc.unesco.org/ark:/48223/pf0000396324

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